SEP 9 1924 Medical Lib.

THE RHODE ISLAND MEDICAL JOURNAL

Owned and Published by the Rhode Island Medical Society. Issued Monthly

VOLUME VII No. 9 | Whole No. 180 PROVIDENCE, R. I., SEPTEMBER, 1924 | PER YEAR $2.00 SINGLE COPY 25 CENTS

CONTENTS

ORIGINAL ARTICLES

Peptic Ulcer. Lucius C. Kingman, M. D. 131

Discussion 134

First Aid in Industrial Accidents by the General Practitioner. James W. Leech, M. D. . . . 138

Acidosis in Children. Maurice Adelman, M.D. 141

Contents continued on page IV advertising section

Entered as Second-Class Matter at the Post Office at Providence, R. I., Under Act of March 3, 1879

Physicians and Surgeons

Pituitary Liquid (Armour), a pure solution of Posterior Pituitary active principle standardized physiologically (no preservative) oxytocic, stimulant in uterine inertia, peristaltic paralysis, shock, collapse, 1 c. c. ampoules surgical, ½ c. c. ampoules obstetrical.

Sterile Catgut Ligatures, Plain, Chromic, Iodized, Strong, smooth, supple; made from lambs' intestines selected in our abattoirs for surgical purposes. Nothing better can be manufactured from catgut. 000 to 4 – 60 inch lengths.

Suprarenalin Solution, 1:1000. Astringent and hemostatic. A stable, water white, non-irritating preparation of the astringent, hemostatic and pressor principle of Suprarenal Substance. (Being free from chemical preservatives, Suprarenalin Solution is the ideal product for e. e. n and t work.)

THYROIDS	CORPUS LUTEUM	PARATHYROIDS
Powder 1/10, 1/4, 1/2, 1 and 2 grain tablets	Powder 2 and 5 grain capsules 2 and 5 grain tablets	Powder & 1/20 1/10 grain tablets

Booklet on the Endocrines for Medical Men

PHARMACEUTICAL PRODUCTS

ARMOUR AND COMPANY

CHICAGO

MEAD'S

PREVENTING NUTRITIONAL DISTURBANCES IN INFANTS

By far the largest majority of children that are brought to hospitals suffering from severe nutritional disturbances are victims of serious errors made by parents who failed to consult their physicians, and who attempted to feed their babies without a doctor's advice.

If all babies were under a competent physician's care, infant mortality would be surprisingly reduced.

MEAD JOHNSON & COMPANY realize that the *physician is the only one capable of feeding babies successfully.* MEAD'S INFANT DIET MATERIALS, therefore, have no directions on the package, the mother gets her feeding instructions *only* from her doctor and follows his advice throughout the feeding period.

MEAD'S DEXTRI-MALTOSE, Fresh Cow's Milk and Water will give gratifying results in feeding a large majority of bottle babies.

MEAD'S CASEC and MEAD'S POWDERED PROTEIN MILK are splendid for fermentative diarrheas.

Samples and literature sent at the physicians request

MEAD JOHNSON POLICY

Mead's Infant Diet Materials are advertised only to physicians. No feeding directions accompany trade packages. Information in regard to feeding is supplied to the mother by written instructions from her doctor, who changes the feedings from time to time to meet the nutritional requirements of the growing infant. Literature furnished only to physicians.

MEAD JOHNSON & COMPANY

EVANSVILLE, - - - - INDIANA, U. S. A.

INFANT DIET MEAD'S MATERIALS

MAKERS OF INFANT DIET MATERIALS EXCLUSIVELY

THE RHODE ISLAND MEDICAL JOURNAL

The Official Organ of the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee

VOLUME VII NUMBER 9 | Whole No. 180 | PROVIDENCE, R. I., SEPTEMBER, 1924 | PER YEAR $2.00 SINGLE COPY 25 CENTS

ORIGINAL ARTICLES

PEPTIC ULCER.*

By Lucius C. Kingman, M.D.

Providence, R. I.

From the surgical standpoint there are some additions to the etiology, symptomatology and diagnosis which may be made:

Etiology: Focal infections are of importance—

1. From mucous membrane of the upper air passages.
2. From teeth.
3. From disease of other interabdominal organs,—gall bladder and appendix especially. In this connection it is of interest that lymphatic flow occurs from cecal angle to the glands along the greater curvature of the stomach.

There must be some significance in the fact that ulcers of the lesser curvature are the most common gastric, and of the outer wall the most common duodenal. This is the course taken by liquid food and it is stressed that too hot drinks are a factor.

The most constant factor is that the ulcer occurs in the area of peptic digestion.

Symptoms: Surgically, the history of pain, its periodicity and recurrence, is our chief concern.

Signs: We have none.

Laboratory: X-ray is of the greatest importance. Test meals mean nothing. Blood in stools is of value.

Diagnosis: It should be emphasized that, while the diagnosis of duodenal is comparative easy, that of gastric ulcer is difficult. We do not know the exact cause of the pain in ulcer. It is not due alone to food or gastric juice impinging on ulcer. The associated spasm has much to do with its production and, as regards the stomach, this spasm may be produced by other causes, such as a diseased appendix.

The difficulty of diagnosis in gastric ulcer may lead to grave error in estimating the results of any treatment. As a basis of such estimation it must be insisted that only such cases be included as can be proven beyond a reasonable doubt. In surgical cases this means history, X-ray and, especially, operative findings. In the medically treated cases, history and positive X-ray findings. The surgical list will naturally be the more accurate as there are only three positive methods of diagnosis,—sight, feel and X-ray.

We must remember that, while surgery can cure a peptic ulcer, it cannot cure a wrong diagnosis.

The question of whether carcinoma develops in a pre-existing chronic peptic ulcer is not of so much importance as the fact that a carcinomatous ulcer cannot be differentiated from a simple ulcer except when under the miscroscope.

Multiple ulcers occur in about 6%.

Recurrence of ulcer after operation, including jejunal, is about 2%. The more correct the operation the less the per cent.

Statistics are of importance as a basis for discussion and as a check-up on our results. These from the Rhode Island Hospital are too small in number to be used for comparative study and are faulty in not including a follow-up of cases. They show a few things of interest to us all because they are the patients in this community and represent a cross section of the medical and surgical work done here.

About thirty men are responsible for the immediate treatment. If the number of doctors who had treated these cases before their entrance to the hospital could be added, the number would be very large. The average ulcer case has been through many hands before landing there.

The Rhode Island Hospital statistics are followed by others, not by way of comparison, but to better present the extent of the problem and to show what basis surgery has for its claims.

*Read before the Providence Medical Society, April 7, 1924.

STATISTICS FROM R. I. H. FOUR YEARS 1920-23 INCLUSIVE. 140 CASES PEPTIC ULCER.

Total duodenal, 78	Total gastric, 62
Surgical, 61	Surgical, 33
Medical, 17	Medical, 29
Duodenal:	
Surgical, 61	
Perforation, 18	10 deaths, 55.5%
Non-perforative, 43	7 deaths, 16.2%
Medical, 17	No deaths
Gastric:	
Surgical, 33	
Acute perforative, 10	2 deaths, 20%
Non-perforative, 23	4 deaths, 17.4%
Medical, 29	
Acute perforation, 0	
Non-acute perforation, 29	4 deaths, 13.8%
Duodenal:	
Males, 68	Females, 10
Gastric:	
Males, 47	Females, 15
Surgical, 28	Surgical, 5
Medical, 19	Medical, 10

Deaths in non-perforative duodenal:

1 bleeding, 6 days
1 chronic t.b. and pneumonia, 4 days
1 pyopneumothorax, 16 days
1 non-union of wound—peritonitis, 14 days
1—1 day. 1—3 days. 1—6 days.

Deaths in gastric non-acute perforative:

Medical:
3 hemorrhage
1 chronic perforation

Surgical:
1 hemorrhage
1 gangrene of lung, hypertrophy of prostate (59 yrs.)
1 kidney complication (68 yrs.)
1 pneumonia

Other clinics (Surgical):

M. G. H.	310 cases	6.7%	mortality
Mayo	4532 duodenal	1.76%	mortality
	1191 gastric	3.77%	mortality
Moynihan	500 duodenal	0%	mortality
	164 gastric	1.6%	mortality

After results:

M. G. H. 202 cases	187 well; 15 not	
Crile ———	82% relieved; 11% not	
	85% working	
Mayo	85% traced	70% complete recovery
		10% improved
		4% unimproved

In both duodenal and gastric lists from Rhode Island Hospital it will be noted that nearly one-third are acute perforative. These cases should have been cured before perforation.

In the gastric, whereas surgeons saw 61 duodenal to 33 gastric, the medical men claim 17 duodenal to 29 gastric.

That this subject is presented from both a medical and surgical standpoint does not necessarily mean a conflict of opinion. The extremist in either direction is to be avoided. Where the two meet and at times overlap is the place for an honest difference of opinion. But no one has any right to an individual opinion unless familiar with the recent work, both medical and surgical. That there is any argument shows that there are unsatisfactory results from any line of treatment.

The internist sees the bad surgical results and the surgeon sees the bad medical results. As a consequence probably neither has quite a correct opinion as to the possibilities of either line of treatment.

There are certain facts to be always borne in mind. The stomach and duodenum have a most important function to perform and, from the nature of the damage done by the lesion of peptic ulcer, a certain amount of permanent crippling may result no matter what the treatment. Remissions of symptoms occur under any treatment and without treatment. The etiology is unknown and, until known, treatment of any kind is empirical.

Peptic ulcer is not always associated with hyperchlorhydria. There may be hypochlorhydria. Therefore the alkaline treatment is empirical though it may work. Gastro-enterostomy is illogical but it works.

The physiology of the stomach is not fully known. The peristalsis is thought to be analogous to the heart beat. Stomach blocks may occur.

Under any treatment, or without, there are four risks before a patient with peptic ulcer,— 1, invalidism; 2, carcinoma; 3, hemorrhage; 4, perforation, acute and chronic.

Where then do medicine and surgery meet?

First, there are certain obviously surgical conditions,— acute perforation, chronic perforation, mechanical obstruction and repeated hemorrhage.

Obviously medical,—acute ulcer or any peptic ulcer not coming under the above surgical headings, and without urgent symptoms, which has not received adequate medical treatment.

This leaves us the average peptic ulcer. Many factors must enter into the decision as to whether the case shall be medical or surgical. There is the personal factor of the medical men involved. Just as there are certain physicians who, on account of their authority and prestige can accomplish good results by maintaining treatment in all its details, which the average cannot do, so there are surgeons who can also accomplish results, through their personal gifts and wide experience, impossible to the average surgeon. Failure of medical treatment is not always the fault of the method or of the physician. The patient does not give him a fair chance. Such a patient is better off under surgical care. Consistent medical treatment is better than poor surgery.

In the given community the standard of success offered by the surgeon and by the internist of that community must be the guide. In such hands as Moynihan of Leeds and the Mayo clinic, the operative mortality is far less than the medical mortality. In the hands of a Lenhardt or a Sippy medical treatment is carried out with attention to detail and results not seen in the average treatment.

The economic problem is important. Can the individual with a peptic ulcer afford to make a pet of it? Can he afford the time and expense to properly attend to each exacerbation?

The degree of discomfort: the suffering may be so great that life is no object.

One fact is brought out by the medical figures. The longer the duration of symptoms, the less chance of medical cure. Sixty per cent may be cured if symptoms have persisted only six months or less, but, if ten years or more, only 5%. The surgeon, assuming him equal in ability to the internist, can surpass in cures the internist in his early cases. The older the case, the more marked the difference. Don't keep the case under medical treatment too long.

By surgery, the lessening of the four great risks of invalidism, carcinoma, perforation and hemorrhage,—and under perforation not the acute alone but the chronic perforation into other organs,—more than compensates for the operative risks of shock, hemorrhage, mechanical difficulties and jejunal ulcer.

Surgery can cure the majority of chronic peptic ulcers. A simple gastro-enterostomy can cure the majority of duodenal ulcers. Surgery is not satisfied with such results, however, and is ever reaching out to reduce the percentage of failures. And in these failures the criticism of surgical treatment rests. But remember that in many of these cases surgery has not had a fair chance. They are medical failures and have been kept until an almost hopeless problem is turned over to the surgeon. If all the cases were like the majority there would be little in the literature on the subject of treatment.

The causes of failures may be grouped under (1) handicaps, (2) accidents, (3) poor surgery.

(1) The case is seen too late.
   a. Patient in very poor condition.
   b. Such damage has been done by the lesion that operation is mutilating.
   c. Such damage has been done that no satisfactory operation can be done. Ulceration may have occurred with fistulae into surrounding organs. A bleeding point may be impossible of access on account of adhesions.

(2) There is no co-operation on part of patient in proper aftercare or the patient's circumstances are such that proper aftercare is impossible.

(3) The patient has an "ulcer diathesis." Some people tend to have ulcers.

Accidents: Those attending any surgical procedure:

(a) sepsis, (b) shock, (c) hemorrhage, (d) lung and kidney complications, (e) failure of resumption of physiological function, (f) adhesions, (g) embolism.

No matter where or by whom operated these dangers are ever present.

Poor surgery:

1. Uncalled-for operations based on wrong diagnosis. Stomachs have been operated upon when no organic lesion was present, as in functional neuroses, atony, ptosis, or when the disease was elsewhere as chronic appendicitis, gallbladder disease, cirrhosis of liver, splenic anemia, spinal cord lesions, lead poisoning, vomiting of pregnancy.

2. Bad choice of operative procedure: as witness attempt to cure all cases with gastro-enterostomy.

3. Faulty technic: slips in important details, poor workmanship, use of wrong loop for anastomosis.

4. Attempts at operation beyond patient's ability to undergo or surgeon's to perform.

The surgery of peptic ulcer is difficult. The diagnosis may be extremely hard. The exact nature of the pathology present can only be determined at the time of operation and the particular operative procedures to be employed must be determined at the time of operation.

The technical difficulties, again, may be as bad as anything to be met in abdominal surgery. Often these difficulties impose the necessity of resorting to a choice in operative procedures which is not ideal.

Again, certain pathological conditions may be encountered for which no satisfactory operation has yet been devised. In starting an operation for peptic ulcer one must be prepared to do any one of the following operations, or a combination of them: 1. Excision. 2. Gastro-enterostomy. 3. Pylorectomy. 4. Pyloroplasty. 5. Sleeve resection. 6. Partial gastrectomy. And any of these once started must be completed. Surgical judgment of the highest order is required. The larger the experience the better basis for judgment. For this reason the dicta of surgeons in large clinics must be accepted.

Do not ask too much of surgery. A perfect functional result is to be striven for but a leg that goes with a limp is better than no leg. If we restore a patient to health and comfort by doing a resection for a large saddle ulcer, he should not complain of his inability to gorge himself. And, if we occasionally request permission to reoperate a case, remember the many re-treatments of the internist. We cannot prevent reformation of ulcer in certain individuals.

Discussion.

Dr. Gray:—It is a pleasure to listen to papers on the subject of gastric and duodenal ulcer so entirely free of bias. These papers embody the friendly professional spirit which should exist to a much greater degree than is common when this subject is discussed. It was not intended that this symposium should be medical vs. surgical or surgical vs. medical treatment of ulcer, for that attitude does not exist among men who know the latest views on this subject. Dr. Leahy well expressed this late status of this subject when he said that unless the case is urgent he wants it passed upon by the gastro-enterologist before he operates. For the past ten years leading surgeons have agreed that many of these cases should be given the benefit of prolonged medical treatment before operation is undertaken. At a meeting of the American Congress of Surgeons in Washington two years ago when this subject came up there was only one dissenting voice. For the past 13 years I have been telling my friends in the profession that gastric and duodenal ulcer can be cured medically. At first they seemed to take this with mental reservations, but as the years have passed they seem more interested and it is encouraging to have this confirmed by men from different parts of the country. My work, which for the past four years has been confined to internal medicine, is now almost entirely gastro-enterology.

In 1915, a patient came to me who had had two hemorrhages about two years apart. His family physician strongly advised him not to "monkey" with medical treatment. That patient was symptom free for five years when he had a return of his symptoms, but he was discharged after three months' treatment and has had no symptoms since. This physician now advocates medical treatment and this example will be followed by the rest of the profession in the years to come. It has been exceedingly gratifying to me to note the gradual change in the attitude of the profession and the gradually increasing number of cases that are being referred to me for treatment.

A paper advocating the medical treatment, to be convincing, should not only deal with the results of selected cases but a large enough number of consecutive cases, proven by X-ray before and two years after treatment, should be analyzed, telling how many were discharged symptom free, how many had recurrences, how many required operation after the treatment had been tried, and how many developed cancer, hemorrhage or perforation. About 25 to 30% will have recurrences after either medical or surgical treatment. It is no easy task to follow up your cases and get reliable in-

formation two years after they have been discharged, at least I have found it so. While I have quite a number who have been symptom free for years I am not prepared to report this properly. I might speak, however of two cases, one was operated on two years after discharge, for adhesions and a mass 5 cm. in diameter by 2 cm. thick was excised from the lesser curvature. On turning it over there was a depression 1 cm. deep, an old healed ulcer, perfectly healed and the section showed only inflammatory tissue. This was nine years ago and the patient is alive and well. Another had suffered for years, his X-ray showed ulcer in 1919 and again in 1921, and in December, 1923, after two years of freedom from symptoms the X-ray showed no evidence of ulcer. The men who claim ninety-odd per cent of cures by either medical or surgical treatment will be obliged to revise their figures if they watch their cases over a period of years, for the treatment does not remove the cause, hence the recurrence. The mortality of ulcer is largely due to the fact that the case has been allowed to exist for too long a time and the patient is a poor operative risk and here again is where the medical treatment should be employed and the patient brought back to a better physical condition. This, of course, does not apply to acute perforation, stenosis, or cases where malignancy is suspected.

Thirteen months ago when I went on duty at St. Joseph's Hospital I found an ex-soldier who had spent the preceding six years in hospitals. He was 30 pounds underweight, hardly able to walk and an X-ray showed a duodenal ulcer. I sent him home and put him on treatment. He has been practically symptom free for the past three months and is doing quite hard work in a garage. If he had been operated on 13 months ago, his chances for recovery would not have been very good. If he proves to be a surgical case later he will be in good condition for the operation. April first of this year, when I went on duty at the hospital, Dr. McKenna referred a young ex-soldier to me who had a gastro-enterostomy in 1920, another stomach operation in the Rhode Island Hospital last fall. He has a jejunal ulcer and is a poor risk for operation. He has gained six pounds in weight and his pain has subsided, and he looks like a new man. He may have to be operated on later but his chances of standing the operation will be much improved.

Hemorrhage is another condition that is conceded as much better treated medically than surgically for the mortality is lower. Perforation, if not acute and peritonitis not marked can often be treated and the patients rendered symptom free for a time, at least, thereby making a much better risk than a few weeks before.

In an article which I wrote in 1920 for the Oxford Index of Therapeutics on the treatment of ulcer, I said that I considered it a conservative statement that 70% of ulcers could be cured medically. The other 30% would include the obstructive cases, the perforated cases, the large ulcers that resist treatment, the cases where malignancy is suspected and the cases where the co-operation of the patient cannot be secured. Dr. Kingman says that the surgeon sees the medical failures and the physician sees the surgical failures and this gives each a distorted idea of the other's treatment. I would like to suggest that when a surgeon sees a medical failure that he inquire of that patient whether he followed his treatment until he was discharged and he will nearly always find that the failure was the fault of the patient and not of the treatment. In all the discussions on gastric ulcer there is a phase that no one seems to touch, and that is what might be called the majority case, which includes the negative X-ray cases. The cases which correspond symptomatically in every way to the positive cases and which often have caused suffering of long standing, the case in which a positive diagnosis cannot be made and which may or may not be due to ulcer. Dr. Boyd showed cases which gave evidence of ulcer at one time and not at another. Surely these cases should have a medical chance.

Of the 204 cases that I have had X-rayed, 110 were negative, 43 showed gall-bladder pathology and 51 showed ulcer. If I render 70% of these symptom free and the surgeon gets the other 30% he will surely think the medical treatment is of little account. If you will pardon the digression I want to say that 70% of the gall-bladder cases can be rendered symptom free and I hope to write a paper on that some day.

The diagnosis of ulcer is made on the history, physical findings, gastric chemistry and the X-ray. Of these, the X-ray is the most important and

though it is not infallible, it is our most accurate means of diagnosis. I have heard men pick out mistaken X-ray diagnosis and cast doubt on the diagnostic value, but all writers on the subject agree that it is our most important help to diagnosis and since I have awakened to the realization of this I do not make a positive diagnosis of ulcer unless it shows positive X-ray evidence. We all know that if an ulcer only involves the mucous membrane and not the muscalature there will be no irregularity in the outline of the picture, hence no X-ray evidence, and again ulcer sometimes is present without symptoms.

Dr. Cheney, of the Leland Stanford University, divides the gall-bladder symptoms into four types. A—Frank gall-stone colic without indigestion symptoms between. B— Frank gall-stone colic with indigestion symptoms in between. C—Indigestion symptoms without colic. D—Symptoms like duodenal ulcer two or four hours after meals, relieved by food and alkalies. This last type will similate ulcer so closely that the diagnosis cannot be made without X-ray and sometimes not then with it. On the other hand we saw a case in Boston last week that every one in the class thought was gall-bladder, but on operation it proved to be an ulcer. Up to a few years ago the diagnosis of ulcer was seldom made in the absence of hemorrhage, except by the surgeon and the patient went the rounds, being treated for indigestion until he consulted a surgeon, but this is changing rapidly and we have learned that 75% of stomach troubles can be traced to causes outside of the stomach, and the diagnosis of indigestion is fast becoming obsolete.

* * * *

Dr. George A. Matteson: Dr. Gray has already pointed out the very marvellous respect that the medical representative expressed for the surgical point of view and the correspondingly good feeling the surgeon expressed for the medical point of view. This disease of peptic ulcer is something that is of recent development. Fifteen years ago papers written from opposing sides of the question would have probably led to a debate of considerable heat before the discussion was concluded. Both writers dwelt on that spirit of tolerance to a very marked degree, and I am sure that we all agree with them that their reasons in that regard are correct. It is a subject in which the medical man has his share and the surgical man his. The difference between the two spheres of endeavor is one which must be narrowed, and the exact indication of surgical or medical treatment ultimately crystalized so that they can be recognized.

It is interesting to note that neither of the writers brought out anything with regard to the etiology of the condition which is due or fully acceptable to the authorities that have given it consideration. The old theory which goes back nearly fifty years, I think, still remains on the whole no satisfactory explanation of the cause of ulceration of the stomach or duodenum. From my own surgical prejudices I would have some difficulty in being quite so enthusiastic toward the medical plan in regard to this condition. To my mind this is a condition which is a chronic condition, and in my experience chronic conditions do not stand still. They get better or they get worse It is the gradual course of the disease which makes the surgical problem such a hard one. Unless the medical man can by some means prove that his chronic ulcer case is getting better and not getting worse, I don't think he is doing the best thing by his patient by not putting him to surgical treatment. We all know how a case which at one time must have been an easy surgical case becomes in time so magnified by conditions that the surgeon is forced to do much more than he would wish to do and leave the patient with an operation which is not one of choice but limited by the necessity of the condition. So I do not feel that, although I would grant that an ordinary uncomplicated simple case of not too long duration should probably be kept under medical treatment for a time, yet that time should have its limitation, and the burden of proof is on the physicians fairly to demonstrate that their case is not going the wrong way. Under the conditions we surgeons have to deal with, delay is the worst element in our problem, so that while the medical treatment undoubtedly presents and oftentimes effects a cure, I would not say that their treatments are not always reliable, but while they may cure 70%, I say they must prove that the case individually treated is the right way and not the wrong way.

* * * *

Dr. Charles O. Cooke: I think regarding etiology of ulcer that we have not paid enough atten-

tion to the theory of Rosenelle. It is pretty generally accepted that kidney disease and rheumatism is caused by a streptococcus that is the source of infection. I think it is pretty clearly proven by Rosenelle and at the Mayo clinics that the same process takes place in ulcer. It seems to me that if an ulcer case is going to be treated medically, the first thing to do is to rule out any foci of infection in the teeth, tonsils, or wherever they may be. Certainly we see many instances of ulcer cases who have had syphilis. We should be pretty careful to rule out syphilis.

Then I feel that in the medical treatment of ulcer one is apt to be deceived because the symptoms may be relieved. A person may have ulcer and then he has a period when he has no symptoms, and that is the time when it is thought a medical cure has been effected, and he will go some years that way when the symptoms are chronic and recurrent.

* * * *

DR. DEWOLF: I want to call attention to this, that the medical treatment of ulcer is not as a rule carried out in a way that is sufficient. The average medical case stays about three weeks at the most, as a rule, on rest and diet. That is not long enough. The case in my opinion should be at least a month on a complete rest and should have a careful diet during that time, and should have a second month during which they are almost completely at rest, and then after that they should be very careful on the diet. It seems to me that almost all of the cases I have seen at the hospital seem pretty well after a couple of weeks have gone by and the diet has eased up too quickly and the patient is not satisfied to remain under treatment long enough to cure them. It is a perfectly simple matter I should imagine to take a patient and give him really a thoroughly medical cure. A good many of these cases that are recurring, as Dr. Cooke says, have not really had a fair medical treatment.

DR. MOWRY: These were two very excellent papers, and I enjoyed them both very much. The subject of peptic ulcer is one in which we are all very much interested. The arguments in general on the different treatments are some good and some bad and some indifferent. Dr. Mathews and Dr. DeWolf have hit the key note in the medical treatment in insisting upon the prolonging of the time of medical treatment, as it is usually too short and the case requires much longer observation. It is a tremendous task to treat a case of old indurated peptic ulcer. Frankly, I would not permit myself to treat a severe case in a child. It should be treated by a man who understands blood chemistry, chemistry of the body, and who has a laboratory at his elbow, and can hospitalize the patient, and he cannot get along treating the patient and get by unless he does that sort of thing. I think it is a severe test, a case of peptic ulcer. I think the severe cases need hospital treatment, and long continued hospital treatment. What I have to say concerning surgery—I don't want surgeons to feel upset at what I am going to say because I am not going to speak concerning it in that way. I want to have all the charity I can, and want them to have charity for me.

First of all, there is poor surgery done in handling peptic ulcer, and here in Providence. It is unfortunate that we are so situated that we cannot have a stomach case operated upon by a few men, by one or two men, and then after those one or two men have done fifty, seventy-five or a hundred cases, they then might speak with authority. In peptic ulcer there are several different operations, five or six operations, that can be done; yet posterior gastro-enterostomy is done in most cases in Rhode Island, and I defy any man here to deny that fact. It seems to me that all cases do not demand that, a great many of them do not require it, and out-patient surgeons should not be allowed to experiment on them. Surgeons should get together and have men who are proficient in the art of gastric surgery handle these cases. It is so unfortunate that we medical men see the surgical failure in peptic ulcer. They come in our offices tremendously downcast. "The picture was rosy before I went into this thing. Well, here I am as bad and worse than I was before." Why don't the surgeons tell those patients before they begin? When they have a case of hernia and operate, they say, "Here, there is a certain percentage of cases that recur. However, in late years not so many recur as did a few years ago." Why don't they sit down and tell their patients in peptic ulcer cases, "Here, a certain percentage of these cases recur, and after you have been all

through with your operation, you may have symptoms all over again." I have never heard of a surgeon who told his patient that. Do they look at them in any such way as that? That is my idea. There is a lot of poor surgery. Men do stomach surgery that should not be doing stomach surgery. Tell your patient that there is a small percentage of cases that are not going to be cured by surgery, that there are two or three chances that they are not.

If you have a patient where they cannot get food down through the alimentary canal, they have to be operated. A certain few have to be operated for hemorrhage. Some bleed little by little all the time until they become anaemic, and they come to operation. Then there are a certain percentage of cases that seem to be going to the bad anyway, and they come to operation. My idea is the treatment of cases of peptic ulcer medically, and get into surgery only as a last resort. When you are up against obstruction and hemorrhage, and up against the real thing, then take surgery, but give a patient a good thorough medical treatment before you get into surgery.

* * * *

DR. MATHEWS: I have not very much to say except to emphasize a point or two. In the first place the average case has already been stated, which is an easy case to treat. Provided the patient can be reasoned with, the case is not at all difficult. I feel the chronic cases ought to be treated with thoroughness. I feel that very few medical men treat these cases thoroughly enough. It requires a great amount of work, and patience is all that is necessary to treat those cases. A man of experience, who has had the chance to follow these cases along can do a lot more than the average medical man in the treatment of these hard indurated peptic ulcers.

In regard to the surgical aspect. Dr. Mowry is a little frank, and somewhat brutal, but after all there is a lot of sense in what he says.

DR. KINGMAN: I have not much to add. Don't keep your case too long. Don't try to make a new stomach out of an old one.

FIRST AID IN INDUSTRIAL ACCIDENTS BY THE GENERAL PRACTITIONER.*

BY JAMES W. LEECH, M.D.

PROVIDENCE, R. I.

A physician who confines his practice to a fractional part of the human body should by the very nature of his more confined activities acquire at least a more intimate acquaintance with his particular field, but should not fail to give credit for the difficult part played by the general practitioner who must be prepared to render first aid in many instances which he has no wish to follow through to completion. The specialist is apt to view his chosen field through convex lenses which magnify its scope and importance, but how much wider and how many more points of contact must the knowledge of the general practitioner embrace to meet the emergencies of every-day practice? It is, therefore, in no spirit of criticism of the general practitioner that I present these observations on the management of some of the more frequent accidents incident to industrial life, but rather in a spirit of co-operation and helpfulness make some suggestions which may be of use to you in cases which cannot conveniently be referred to a specialist and which you must treat.

The great majority of eye injuries are received in various industrial pursuits, but the farmer is by no means free from these injuries. Thus his eye may be injured by a spike of wheat or other grain. Indeed, in the Middle West, the frequency of this accident has resulted within the last few years in the recognition of the condition as an entity under the name of Agricultural Conjunctivitis. He may be kicked by a horse or have a fragment of a nail driven into his eye.

For the removal of a foreign body from the cornea there are a few prime requisites—good illumination and complete anaesthesia. Inasmuch as the normal cornea is transparent, the various structures in front of and at the level of the pupil are best illuminated by light falling obliquely from in front and to one side of the patient's eye—preferably his right—and condensed or focussed by a convex lens upon the cornea. This arrangement leaves the physician the use of his right hand for instrumentation. The small pocket "flashlight"

*Read before the Kent County Medical Society, April 10, 1924.

of fountain pen size is a most convenient source of illumination of the eye. The proper use of a local anaesthetic is important, and too often misunderstood. I have tried various local anaesthetics and in varying strengths of solution and have found from experience that the best anaesthesia is obtained by three instillations of 4% cocain at two or three minute intervals. Do not attempt removal of a foreign body with a cocain solution of less strength. At the risk of seeming to be didactic and indulging in trivial details, I suggest that in making the instillation the patient's head be firmly supported against your own body, standing behind him, the upper lid raised by the flat of the thumb, drawing the skin of the lid up to the bony brow and the patient directed to look down with both eyes. Maintenance of the firm pressure of the thumb on the raised lid will prevent the involuntary attempt to wink and will insure better absorption of the solution. In the actual removal of the foreign body, the physician will be greatly helped by instructing the patient to fix with his uninjured eye. If the patient closes the well eye, both eyes will roll upward, making control of the position of the injured eye impossible.

A foreign body imbedded in the cornea is not easily wiped or stroked off. It is necessary to actually lift it out of its bed and the point of the spud should be used to gently pry or lift it out. Not infrequently in the case of emery or bits of iron or steel in the cornea, the foreign body is successfully removed but there remains a ring of rust-impregnated or charred corneal tissue. Unless this is completely removed, the operation is incomplete. The blunt end of the spud placed at right angles to the surface of the cornea and rotated between the fingers with a drilling motion will usually clear away this debris without danger.

The after care is important. If there is not very much congestion of the eye and the wound is clean to inspection, frequent bathing with warm boric acid solution will usually insure healing in 24 hours. Some advocate the use of an occlusive bandage. Personally, I do not like to use a bandage on these cases, preferring that the patient have a little discomfort for a day rather than seal the eye with a fresh wound of whose asepsis we have no accurate knowledge. If there is much redness of the globe and if the manipulations have been prolonged and resulted in corneal excavation or surface laceration beyond the wound limits, do not hesitate to use and order for home use three or four times a day a 1% solution of atropin sulphate. True, this procedure will interefere with the use of that eye for several days, but a wounded eye which really requires ciliary rest by atropin will be much too painful and watery to be of use at any sort of work. I wish to stress the importance of using atropin in cases like the foregoing or in cases which come to you late with evidence of infection already in the wound as evidenced by a gray to yellow zone in the cornea about the foreign body and marked sensitiveness of the eye. Nothing gives greater comfort to the patient nor greater feeling of security to the physician as the complete ciliary rest due to the atropin.

Perforating wounds of the eyeball may vary from minute punctures to those which at a glance spell disorganization of the globe. In the small wounds, the history is, as always, important and helpful. A fragment of metal flying from impact of two metals, such as from striking a crank pin with a hammer or a drill breaking while being sharpened on a wheel, will often strike the eye with such tremendous velocity and force as to be driven through the surface into the interior of the globe and even through the posterior tunics to find lodgment in the orbit extraocularly. With such a history and no foreign body seen on the surface or with a minute wound which at first glance may seen neglible, one should be suspicious of the foreign body having entered the globe. By all means insist upon X-ray examination if there is the slightest suspicion of such an accident. You may have some difficulty in persuading the patient of the desirability of this procedure, for, as a rule, a foreign body within the globe gives less immediate discomfort than one which has come to rest on the surface. But in this type of injury time is the essence of treatment, as the earlier removal of an intra-ocular foreign body the better is the chance of saving sight and eye. I would, therefore, suggest that in case of suspected or known foreign body in the globe, that the eye be cleansed, atropin instilled, a dressing applied and the patient sent to the most convenient point for X-ray and removal of the foreign body.

Contusions of the eye-ball without surface rupture usually result from trauma by large bodies such as blocks of wood, balls, etc. There may be

subjectively only pain and temporary blurring, or the force of the blow may cause intra-ocular haemorrhage and rupture of the choroid by contra-coup. The haemorrhage may show as hyphaemia, or blood in the anterior chamber or give no external evidence when the vitreous may be filled with extravasated blood. In the former, ciliary rest by means of atropin and the application of ice-compresses for 24—48 hours will often result in the rapid absorption of the blood in the anterior chamber. The more serious results of contusion of the eye-ball may be suggested by profound and prolonged disturbance of vision. An obliquely oval pupil means that there is a paralysis of some of the fibres of the pupillary sphincter; a trembling or jelly-like quivering of the iris as the eye is moved about means that the iris has been deprived of the support it normally receives from the crystalline lens behind it and indicates that the suspensory ligament of the lens has been ruptured, allowing the lens to luxate partially or completely—always a source of marked and permanent deterioration of vision and not infrequently the exciting cause of a destroying iridocylitis; this condition and profound and lasting loss of vision should indicate to you the desirability of examination of the deeper structures of the eye by one trained in the use of instruments for that purpose.

Burns of the eye and appendages by caustics, steam, babbitt metal and explosions naturally vary in degree but are always potential sources of grave ocular injury. In the case of acid and alkali burns, the theoretical antidotes naturally suggest themselves but are rarely, if ever, at hand for immediate neutralizing effect. The most obvious and, under the circumstances, the best immediate treatment is dilution of the caustic agent by splashing the eyes with tap water, reserving until later appropriate treatment for the resultant burns. Molten metal, such as solder, babbitt metal, iron in moulding, should, of course, be removed and the upper and lower culs-de-sac of the lids should be most carefully explored for bits of metal which have been buried, cooled and moulded in seemingly inaccessible parts of the eye lids. Ice-compresses, frequent irrigations with boric acid and the use of emollients, such as castor or olive oil dropped into the eyes every hour or two, will meet the immediate needs of most burns. When the cornea has been burned, the epithelium will often have a grayish appearance like a mirror that has been breathed upon. Any such lesion calls for the use of atropin from the start and even in cases in which the cornea has fortunately escaped actual injury the pain is lessened by its use. In this connection, though it applies equally well in the treatment of foreign bodies in the cornea, ulcers of the cornea and iritis, let me utter a word of warning against the repeated use of cocain to relieve pain. Its use for this purpose is a snare and a delusion, it gives no relief after it has been used two or three times and by its desiccating effect upon the corneal epithelium when used repeatedly, predisposes to corneal erosion and ulceration. The rapid reparative quality of the conjunctival epithelium explains the tendency to early formation of adhesions between burned areas of the palpebral and ocular conjunctive resulting from burns from any agent and should be guarded against by frequent, gentle sweeps of a smooth probe to break the fine adhesions, avoidance wherever possible of bandages to burned eyes, repeated digital drawing away of the lids from contact with the globe and encouragement to rotate the eyes frequently and to the fullest extent.

Lacerations of the lids should receive immediate and the nicest possible coaptation. If the ocular conjunctiva is lacerated and gaping even widely, often a single suture will suffice with the natural "splinting" effect of the closed lids to give perfect union in 24—48 hours. For this purpose I prefer a fine catgut to silk as the removal of the latter often results in fresh lacerations. The ends should be cut short so as to insure their not coming in contact with the cornea where by pressure they would cause necrosis and corneal ulceration. Lacerations of the skin surface of the lids should receive the greatest care in being closed lest wide and thick scarring result. Where the entire thickness of the lid is involved and where the free edge of the lid is torn through, time and care is well spent upon the repair. In suturing a complete laceration of the lid one or more mattress sutures, depending upon the length of the wound, should be inserted, starting from the skin surface through the entire thickness of the lid except the palpebral conjunctiva and coming out in reversed order in the opposite lip of the wound. The reason for not going through the conjunctiva is to avoid having the suture in contact with the globe where

it would injure the cornea. A laceration involving the free edge of the lid should be most carefully brought together to avoid unsightly notching, which will always result if this is not done. This is best accomplished by a suture started in the border between the line of the lashes and the border which rests against the eye-ball. The edges of the lid are thus closely and evenly coapted and the knot lies between the upper and lower lids without detriment to the eye-ball. Lacerations at the inner angle of the lids are likely to sever the canaliculi and result in more or less constant and annoying epiphora from cicatricial closure of the cut drainage channels of the lacrimal system. It would be highly desirable to pass a fine probe into the punctum and thence across the laceration into the distal portion of the severed canaliculus, and close the wound with the probe in place to get healing of the tube, but I should look upon a surgeon who could insert a probe into the torn duct in a bloody, swollen and contused mesial flap as supremely lucky rather than skillful. The point which I think should be stressed in regard to lid lacerations is that they should be immediately repaired—not in a few hours of next day—and with the nicest approximation possible.

I realize that I have omitted much which might properly be considered under a title such as heads this paper, but I have endeavored to touch upon the more common types of injury, to suggest useful aids in treatment and diagnosis and I have purposely avoided the citation of case records.

ACIDOSIS IN CHILDREN.

By Maurice Adelman, M.D.
Providence, R. I.

Acidosis is a very common condition in infancy and childhood, and is perhaps one of the most serious emergencies that arises frequently. This condition has been recognized for a long time clinically, but it is only within the past year or two that the exact cause and its treatment have been discovered.

Acidosis is defined very poorly in the texts as a condition of acid intoxication due to the abnormal production of acids in the body, and their faulty elimination. Holt and Howland, in their latest book, describe acidosis as a condition that supervenes when "acids are produced in great excess, or their elimination is interfered with, and the normal preponderance of bases over acids in the body is disturbed." The definitions of other workers are equally as vague and unsatisfactory. Acidosis occurs when there is less than one molecule of triose for every molecule of fatty acids that is catabolized in the human organism. This results in an increase above normal of the quantity of non-volatile fatty acids present in the body. This condition may be brought about by any number of conditions, but the chemical findings are always the same and the mechanism is the same in the last analysis. The total acidity of the organism remains the same, within very narrow limits, as long as life is present, but the ratio between the volatile and the non-volatile acids varies within rather wide limits. The carbon present in proteins, fats, and carbohydrates is burned to carbonic acid in great part; the sulphur contained in proteins is in part burned to sulphuric acid; and the phosphorus derived from the nucleo-proteins and lecithin is converted to phosphoric acid. Many organic acids are also formed during the process of intermediary metabolism; i. e. fatty acids are set free from the fats, and the deaminization of the amino acids leaves behind an organic acid from which the alkaline amino radicle has been removed. Normally the oxidation of these various acids goes on to the production of carbon dioxide and water, but if, for any reason, this process is not completed, there is a retention of varying amounts of acetone, aceto-acetic acid, and beta oxybutyric acid (the so-called acetone bodies). The degree of acidosis depends on the amount of acetone bodies present in the organism. Due to the fact that the total acidity of the body does not vary, it is found that the volatile acids (H_2CO_3) decrease in amount in direct proportion as the non-volatile ones (acetone bodies) increase.

Acidosis is met with most frequently in children as a complication of an acute infection, or associated with some digestive disorder accompanied by diarrhoea, persistent vomiting, or persistent refusal of food. It is also a frequent and hitherto almost fatal complication of diabetes mellitus. Next in frequency of occurrence is the type that occurs with so-called "cyclic vomiting with acidosis," and finally there is the kind that follows the administration of an anesthetic.

(*Continued on page 145*)

THE RHODE ISLAND MEDICAL JOURNAL

Owned and Published by the Rhode Island Medical Society
Issued Monthly under the direction of the Publication Committee

FREDERICK N. BROWN, M.D., *Editor*
309 Olney Street, Providence, R. I.

CREIGHTON W. SKELTON, M. D., *Business Manager*
266 Broad Street
Providence, R. I.

Associate Editors
ASA S. BRIGGS, M. D.
ALEX M. BURGESS, M. D.
W. LOUIS CHAPMAN, M.D.
JOHN E. DONLEY, M. D.
ROLAND HAMMOND, M. D.
J. W. LEECH, M. D.
NORMAN M. MCLEOD, M. D.
ALBERT H. MILLER, M. D.
DENNETT L. RICHARDSON, M.D.
ARTHUR H. RUGGLES, M. D.
C. S. WESTCOTT, M. D.

Committee on Publication
FREDERICK N. BROWN, M.D., *Chairman*
CREIGHTON W. SKELTON, M.D.
JOHN F. KENNEY, M.D.
ARTHUR T. JONES, M.D.
J. W. LEECH, M D.

Advertising matter must be received by the 10th of the month preceding date of issue.

Advertising rates furnished upon application, to the business manager, CREIGHTON W. SKELTON, M. D., 266 Broad Street, Providence, R. I.

Reprints will be furnished at the following prices, providing a request for same is made at time proof is returned: 100, 4 pages without covers, $6.00; each additional 100, $1.00. 100, 8 pages, without covers, $7.50; each additional 100, $2.80; 100, with covers, $12.00; each additional 100, $4.80. 100, 16 pages, without covers, $10.50; each additional 100, $3.00; 100, with covers, $16.00, each additional 100, $5.50.

SUBSCRIPTION PRICE, $2.00 PER ANNUM. SINGLE COPIES, 25 CENTS.

Entered at Providence, R. I. Post Office as Second-class Matter.

RHODE ISLAND MEDICAL SOCIETY

Meets the first Thursday in September, December, March and June

WM. F. BARRY	*President*	Woonsocket
HALSEY DEWOLF	*1st Vice-President*	Providence
H. G. PARTRIDGE	*2nd " "*	Providence
JAMES W. LEECH	*Secretary*	Providence
J. E. MOWRY	*Treasurer*	Providence

DISTRICT SOCIETIES

KENT

Meets the second Thursday in each month

G. HOUSTON	*President*	Arctic
C. S. CHRISTIE	*Secretary*	Riverpoint

NEWPORT

Meets the third Thursday in each month

NORMAN M. MACLEOD	*President*	Newport
ALEXANDER C. SANFORD	*Secretary*	Newport

PAWTUCKET

Meets the third Thursday in each month excepting July and August

T. EDWARD DUFFEE	*President*	Pawtucket
ROBERT T. HENRY	*Secretary*	Pawtucket

PROVIDENCE

Meets the first Monday in each month excepting July, August and September

GEORGE W. VAN BENSCHOTEN	*President*	Providence
P. P. CHASE	*Secretary*	Providence

WASHINGTON

Meets the second Thursday in January, April, July and October

F. E. BURKE	*President*	Wakefield
WM. A. HILLARD	*Secretary*	Westerly

WOONSOCKET

Meets the second Thursday in each month excepting July and August

A. A. WEEDEN	*President*	Woonsocket
THOMAS S. FLYNN	*Secretary*	Woonsocket

Section on Medicine—4th Tuesday in each month, Dr. Charles A. McDonald, Chairman; Dr. C. W. Skelton, Secretary and Treasurer.

R. I. Ophthalmological and Otological Society—2d Thursday—October, December, February, April and Annual at call of President Dr. F. Nolton Bigelow, President; Dr. Jeffrey J. Walsh, Secretary-Treasurer.

The R. I. Medico-Legal Society—Last Thursday – January, April, June and October. Dr. H. S. Flynn, President; Dr. Jacob S. Kelley, Secretary-Treasurer.

EDITORIALS

MEDICAL EDUCATION.

It is very refreshing to note the recent tendency among leaders in medical education to emphasize the importance of correlating the fundamental sciences with practical observations. During the last twenty years directors of medical schools seem to have given undue preference to the introduction and expansion of laboratories. Very much money has been spent upon construction, equipment and maintenance of such laboratories. The result has been that an undue proportion of the time of the medical student has been devoted to this part of medical education. Too often the students have wasted time upon research problems, and too much stress has been layed by instructors upon some untried and unproved scientific method to assist either in diagnosis or treatment. Many of these new methods are soon found to be faulty, and when applied to a practical test are found to possess no value.

Four years is none too long a period to train young men for the practice of medicine. There is

no time to waste on scientific subjects however interesting or of potential value. Advanced teaching of such subjects should be reserved for those students who desire to take teaching or laboratory work as a profession. But it is nothing short of a catastrophy for the average student to spend much time upon subjects which are not going to be of real value to him when he begins treating patients.

More than this, during the courses of such studies as anatomy, for instance, emphasis should be laid upon structures and their relation which will assist in surgical procedures and physical diagnosis.

Among internes fresh from medical schools, it has been noted in recent years that too often they have a misconception of the importance of many things which have been emphasized in medical school and are obliged to learn all over again new truths from hospital experience.

Relative Values.

The medical teaching should also be so carefully arranged so that over lapping of subjects will not take place, another source of waste of the student's time. The whole medical curriculum should be so carefully drawn and in such detail, that there will be neither over lapping of subjects and that instructors will place emphasis on true and tried methods of diagnosis of operative procedures and of treatment.

GREAT MEDICAL DISCOVERIES.

These are nothing new in medicine, but the prominence given to claimed specifics and promises of immediate developments along certain research lines in the newspapers demand immediate attention and the adoption of measures to stop what will certainly lead to misunderstanding and disappointments. It is an almost every day matter to learn of a new and wonderful cure for scarlet fever, pneumonia, cancer, and the promise of immediate and startling revelations regarding the etiology and promises of cure of cancer.

Specifics for pneumonia are an old story; the records of the last influenza epidemic show how futile were efforts both of prophylaxis and cure. Many vaccines have come and gone without impressing the profession with many phases of their claimed usefulness. Cures for scarlet fever have been announced before now only to be forgotten. The opsonic index does not seem to be consulted as much as formerly and the etiology of smallpox is still *sub judice* despite painstaking monographs representing infinite labor and experimentation. Volumes have been written on the etiology of cancer and miles of photographic emulsion used to depict its parasitology. To be sure we may successfully treat disease without having known its cause, witness malaria, cancer, pneumonia, syphilis, scarlet fever, etc., etc., yet that fact does not make us any less zealous in its pursuit.

In the first place it must be understood that the publication of a newspaper article, together with names eminent in the medical world is no guarantee of the authenticity of the article or that the names were printed by permission. It is equally true that such articles may be written by some uninformed reporter who patches together phrases heard in an after-dinner speech and makes a whole which the speaker never intended and would not allow his name to be used were his permission asked.

Occasionally a clever bit of advertising of this sort gives a medical man a much needed boost or start, yet history shows that those who avail themselves of such methods frequently lapse into their former obscurity because they lack those qualities which make for substantial success .

Now there is a remedy for such nonsense, with its inevitable lowering of the public intelligence, and that is to have an advisory committee of one or more sound medical mind on the staff of the Associated Press and close to every newspaper with a daily circulation of more than fifty thousand. Knowing as we do how carefully censored articles of a political nature and also those regarding industrial condition it is not at all unreasonable that a newspaper should want to give its subscribers news which is news and founded on that which is reasonable and not on the wildest hearsay, and unsubstantiated by extended experimentation and proof.

Again the importance of the proper selection and functioning of a publicity committee from the larger and more active medical societies is urged. There is every reason why a synopsis of papers bearing upon public health problems be prepared in advance for a publicity committee, who could pass upon its suitability for the newspaper or radio broadcasting. As it is there are a lot of health articles published in the newspapers which are untrue, misleading and not founded upon the present state of our knowledge.

MEDICAL LITERATURE.

The literature of no trade, calling or profession surpasses that of medicine in the profundity of learning, in exhaustiveness of research, or in perfection of typographical exposition. The dcotor's library is often an index of his mind and professional ability and its use a guarantee of the thoroughness of his methods and correctness of his diagnoses. The professional still small voice is continually asking, am I right in this, is my recollection correct or is my memory befogged.

The really valuable library is one selected for ready reference, with suitable indices and arranged by subjects, rather than uniformity of back bindings. The more complete and comprehensive the index, the more readily available is the material sought by the inquiring mind and the less the demand upon the consultant's patience and time. The present diversity of sizes, types, and bindings of medical books and periodicals is deplorable and makes reference and storage difficult and a library unsightly.

A glance into the history of medical literature is most interesting and occasions wonderment at the thoroughness of observation of the earlier writers and the excellence of their drawings and engravings. Some of the latter quite put to shame illustrations seen in current medical literature. And, although we appreciate the qualities of the ancients, hampered as they were by the undeveloped state of illustrative processes, our interest is particularly with present day publications which show perfection of printing, wealth of illustration and serial pictures which were hardly imagined thirty years ago. The rapid development of printing and photographic methods, the perfection of the lined screen and the remarkable improvement in the manufacture of papers suitable for purposes of illustration all have contributed to make possible fine books, superbly illustrated. Color photography has advanced to such a degree that that illustrator may copy and reproduce lesions almost like the subject.

The X-ray is now used in nearly every branch of medicine and surgery and with the Bucky diaphragm radiograms far surpassing in detail and clarity any former efforts may now be produced.

With these features in mind it would seem that there was no excuse for any but good illustrations in current text books, periodicals and on the screen at lectures, but investigation shows that many of the books and reprints offered to the profession are far below any reasonable standard of excellence. Many of the pictures are inferior to the superb illustrations of Howard Kelley and Max Brodel of thirty years ago. Indistinct radiograms, frequently of parts which offer no particular technical difficulty, are often observed in some of our very latest books and often the drawings are cheap and unconvincing.

Often, too, the book reviewer finds that the subject matter is quite consonant with the illustrations and sometimes he has the courage of his convictions and tells the profession so, but too often a poor book, badly illustrated, is sold to the busy physician who has not had time to examine carefully before purchasing or who ordered from a prospectus.

The medical student of today is fortunate indeed in having motion pictures as means of illustration and that medical school is richest in equipment and efficiency which makes the most of the still and movement projectors and has the largest library of reels and slides. No other method of instruction imprints so vividly or makes a more lasting impression.

In reviewing current medical literature one occasionally sees a well recognized and rational surgical procedure announced as quite new—it is described in detail and well-executed drawings are offered to make the writer's procedure easily understood. Such an article is of use, lest we forget, but to the well read and experienced surgeon it is an old story.

The reader may often turn with great satisfaction to the works of Strumpell, Osler and Albutt on practise in general and admire the scope and breadth of those remarkable works, but is frequently forced to the conclusion that many of our later day writings are but excerpts and compilations from them and that the authors have reaped where they sowed not.

A careful and unprejudiced review of a number of recently published medical works then, shows a marked retrograde tendency both in excellence of publication and in subject matter. The remedy is with us, to review before buying and to buy only the best, not forgetting the while, the fine work along many lines of the past twenty years.

"THE BENJAMIN FRANKLIN FUND."

Through an inadvertance, an "announcement" under this caption found expression in the columns of the August issue of the RHODE ISLAND MEDICAL JOURNAL.

Our findings, substantiated by the "Journal of the A. M. A.," constitutes our authority for repudiating in toto the purpose and veracity of the before mentioned "announcement."

As this JOURNAL *desires above all else, truth and accuracy in its offerings, we hasten to make this correction of a now palpable imposition.*

ACIDOSIS IN CHILDREN

(Continued from page 141)

The most constant sign of this condition is the air-hunger first described by Kussmaul, and sometimes called acyanotic dyspnoea. This results in an increase in the total pulmonary ventilation, and tends to keep the total acidity of the body at the proper level by decreasing the amount of volatile acids present. If the condition is allowed to progress unchecked, the patient becomes drowsy and this soon deepens into coma. At this stage the patient presents the typical appearance of surgical shock, and it is noted that the oliguria has advanced to the stage of anuria. Laboratory examination at this time would reveal the presence of abnormally large amounts of acetone in the blood as well as in the urine, if some can be obtained for examination. There is also a great increase in the amount of urine ammonia. There is a proportionate decrease in the plasma and alveolar carbon dioxide. The latter observation may be very readily made at the bedside by means of the Scott-Wilson test for acetone in the alveolar air. In ketone acidosis there is always an increase in the alveolar air acetone when there is a decrease in the alveolar air carbon dioxide.

The treatment of this condition is very satisfactory since the specific remedy has been discovered, and it is efficacious in all cases that are seen before they are actually moribund. It consists in the administration of large amounts of fluids and glucose parentally. This method of treatment is not mentioned in text books printed as recently as 1922, but it will certainly come into more general use in the near future. The latest books still describe the treatment of this condition in terms of alkali administration, and speak very pessimistically of the results obtained. The alkali treatment does not accomplish anything beyond making the urine alkaline in a small percentage of the cases. This does not in any way affect the progress of the acidosis, and I venture to say that the results in any individual case would be the same whether alkalis were given or the patient were given an equal amount of water. In addition the alkalis tend to make the stomach more intolerant if they are given by mouth.

There are a few points in regard to this method of treatment which are very important. In practically every case it is found that the serum is very much concentrated as shown by the refractive index of the blood serum, and for this reason a saline hypodermoclysis should precede any introduction of glucose intravenously. The glucose used should be chemically pure and absolutely clear and autoclaved during the previous 72 hours. In giving the glucose intravenously one should use a 10% solution and give it at the rate of 10 cc. per minute and give only 10 cc. per pound of body weight. The administration of 10 units of insulin, for every 30 grams of glucose given, greatly facilitates the absorption of the glucose and makes the recovery from the acidosis much more rapid.

In every hospital where any considerable amount of plastic surgery of children is done, it is a well known fact that as soon as you get any acidosis post-operative you will have the flaps break down and the patient will not only need another operation, but it will be much more difficult than the first one. Since the few facts known about acidosis have been applied, at the Children's hospital of Boston, it has been found that there has been no case of post-operative acidosis that has ended fatally and there have been very few unsuccessful plastic operations. It is now routine to give every patient 24 hours of pre-operative anti acidosis treatment as well as an equal amount of treatment after the operation.

CASE REPORTS.

1. Mary C. Age 2.

Seen for the first time in June, 1923. The family and past history was negative. Thirty-six hours before I saw her it was noticed that she

was feverish and since that time she had vomited everything taken. She had not voided during the previous 12 hours, so far as the parents knew.

The patient was a well developed and nourished girl, lying quietly in bed. Temp. 101.0 F. (rectal). Resp. 36 to the minute and rather deeper than normal. There was a slight acetone odor to the breath. There was no evidence of dehydration. Nothing abnormal was found except some redness of the tonsils and the posterior pharyngeal wall.

Scott-Wilson test for acetone in the alveolar air was moderately positive.

Very small amounts of sweetened orange juice were given by mouth and 5% glucose was given by rectal drip. The patient did not vomit after the beginning of this treatment, and she voided 2 ounces of urine three hours after the beginning of treatment. Within 24 hours the urine only contained a very faint trace of acetone and the test for acetone in the alveolar air was negative. Patient was voiding normally and seemed well in every way.

Since that time the patient has had several similar attacks which have confirmed the original diagnosis of "recurrent vomiting with acidosis." In the interval up to the present time the patient has had a mastoid operation and also a tonsillectomy and there has been no evidence of acidosis at either time, due to the fact that fluids and glucose were pushed before and after both operations. This patient is of the type that goes into very profound acidosis following a very slight infection. This child probably had a very small amount of glycogen in her body and a relatively large amount of fat. Coincident with the onset of any infection she stopped eating and there was not enough glucose in her body to take care of the fatty acids being catabolized during the period of temporary starvation and increased metabolic activity.

Case 2. John P. Age 8 months.

Seen for the first time in July, 1923. Family and past history was negative. Had been having from 20 to 30 stools daily for the previous six days. Stools were very scanty in amount, watery, and contained blood, pus and mucus. He had been refusing most of the milk given and what he took was vomited.

Patient was a well developed baby, very much emaciated and apparently in shock. Temp. 95.8 F. (rectal). Weight 12 pounds. Resp. 28 to the minute and very shallow. The skin was moist and light gray in color, and there was a marked loss of skin elasticity. The eyes were deeply sunken. The bladder was distended and reached almost to the umbilicus. There was no acetone odor discernible on the breath.

Treatment was begun at once. Three hundred cc. of saline was given subcutaneously and twenty minutes later the patient was given an intravenous treatment of 125 cc. of 10% glucose. During the administration of the glucose the patient voided about 3 ounces. Protein milk was offered at the usual feeding intervals but this was refused until 24 hours later. There was definite clinical improvement in the patient's condition noted within two hours of the completion of the first intravenous treatment. Altogether the patient received 2700 cc. of saline subcutaneously and about 950 cc. of 10% glucose intravenously in the following five days. Recovery was uneventful.

Case 3. Charles P. Age 5.

Seen for the first time in August, 1923. The previous history was negative as far as could be ascertained from the parents and the attending physician.

The boy had begun to vomit two days before I saw him and had been drowsy for the previous twelve hours. He had been in coma for the previous three hours.

The patient was a well developed undernourished boy lying in bed unconscious. Breathing was markedly hyperpnoeic and there was a very strong acetone odor in the room. Temp. 98.5 F. (rectal). Resp. 36 to the minute, and very deep and sighing in character. There was no cyanosis and no alteration in the reflexes. Eyegrounds were normal. Nothing abnormal was found on examination except a distended bladder. This was considered a case of acidosis of unknown origin and it was decided to start the usual treatment and try to ascertain the cause at a later time. Accordingly the patient was given a large intraperitoneal injection of saline and this was followed immediately by an intravenous treatment with 10% glucose. At the beginning of the intravenous treatment some blood was obtained for analysis. During the treatment the patient voided 7 ounces and regained consciousness. The urine contained a large amount of reducing bodies, and the sugar quantitated to just over 5%. There was also a very

large amount of acetone and diacetic acid present. The plasma, CO_2, was 26 and the blood sugar was 422 mgms. per 100 cc. of blood. These findings made the diagnosis of diabetic acidosis obvious, and on going into the previous history more carefully, it seemed likely that the patient had been a diabetic for at least three months.

As there was no insulin available, it was decided to repeat the treatment in six hours. After the second treatment the patient was normal to all intents and purposes, except for the glycosuria. The following day insulin treatment was started, and at the present time the patient is doing very well on small doses of insulin and a fairly liberal diet.

The rationale of this treatment would appear to be open to question as the patient already had a large excess of glucose in his blood before the beginning of treatment. This is true, but the glucose that was present in the patient's blood stream was of the beta type and the alpha glucose is the only kind that is of any value as an anti-ketogenic agent. The addition of alpha glucose seems to act somewhat as a catalytic agent in this type of case and makes the glucose present available as an anti-ketagenic agent.

Case 4. Emily J. Age 9.

This girl was admitted to the surgical services of the Children's Hospital in Boston in August, 1922. She was admitted for the cauterization of a prolapse of the rectum that had failed to yield to prolonged medical treatment. Through some oversight the routine pre-operative anti-acidosis treatment was omitted. The patient was etherized and the operation was completed within twenty minutes of the time the anesthetic was started. Two hours after the operation the patient began to vomit and this persisted for 20 hours afterwards. The diagnosis of post-narcosis acidosis was confirmed by the usual laboratory tests, and the condition yielded to the usual treatment as outlined in the previous cases.

The mechanism of this type of acidosis is still open to question in the minds of some observers, because of the fact that it comes on so soon after narcosis and apparently without any predisposing cause. If the following facts are taken into consideration, the condition takes on a different aspect. The child is usually one that is very much above par at the time of operation and is usually purged or starved for the 12-24 hours preceding operation. This alone is enough to make acidosis a grave problem in many children. The nausea, vomiting, and distaste for food following anesthetization make it necessary for the child to subsist on body stores for at least 36 hours. After the patient has used up the stored glycogen and begins to call on the fats, and if no glucose is available, acidosis in varying degrees supervenes. If there is very little body fat, the patient begins to use body proteins soon after the exhaustion of the glycogen, and since these are over half carbohydrate (58%) in the body chemistry, the acidosis automatically takes care of itself. Relying on the carbohydrate content of the body proteins is dangerous in the extreme, as the patient often dies before they are used.

HEART FAILURE AND BLOOD VESSEL FAILURE.

By Louis Faugeres Bishop, A.M., M.D., Sc.D., F.A.C.P.

Consultant in Heart and Blood Vessel Diseases,

Lincoln Hospital, New York.

The function of the blood vessels in maintaining the circulation independent of the heart cannot be too often emphasized. The circulation is maintained for a considerable time after the heart ceases to beat. This can be proved by observing the capillaries in the web of a frog's foot and it has been observed by Denzer in the capillaries of a child's finger after the child had died from heart failure. The experiment may be repeated, although not exactly in the same circumstances, by cutting off the heart from the hand by a strong tourniquet when it is found that the flow in the capillaries of the fingers continues for 60 seconds and even after the flow from artery to vein stops there is an oscillating movement maintained in the capillaries.

The fact that this circulation from the arteries to the veins continues after death is proven by finding the arteries nearly empty and the veins engorged in all dead bodies.

While the great circuit of the blood through the lungs and back to the heart and then through the systemic vessels and back to the heart again is dependent upon the heart, the actual supply of blood

to particular organs is quantitatively regulated by the peripheral circulation.

A temporary stoppage of the heart may lead to syncope, which is quickly recovered from without much harm. A paralysis of the peripheral circulation, as is seen in shock, is a much more serious matter, and if complete is quickly fatal. Fortunately, the heart and the peripheral circulatory mechanism work together.

A failing heart is helped by the contracting blood vessels, which makes the requirement of blood in the arteries much less. On the other hand, vasomotor paralysis is quickly compensated for by the speeding up of the heart, causing it to send larger quantities to fill the dilated vessels. All this is the logical outcome of the evolution of the circulatory apparatus.

In the lowest form of life you find no heart, only simple blood passages. Higher up in the scale we find this tube being differentiated into contractile parts, so that there are, as it were, numerous hearts. In its final development the heart and blood vessels seem to be completely differentiated, but a part of the functions for propelling the blood still remains in the blood vessels.

The great lesson to be learned in clinical medicine is that in our anxiety to support the so-called failing heart we must never lose sight of its dependence upon the blood vessels.

How often have I seen a person being subjected to all kinds of heart stimulation, while at the same time no thought was given to the peripheral circulation. A simple measure and the most reviving of all procedures is the external application of heat.

How many persons die while chilled to the bone in rooms with open windows and insufficient covering and no hot water bags at all. It is imperative in the treatment of heart failure that the hands and feet, at least the feet, should be kept thoroughly warm.

My impression is that death from pneumonia is much more often due to vascular failure than it is to heart failure. I always look for the evidence of vascular failure so as not to be deceived by a good pulse or loud heart sounds as to the person's condition.

The medical profession has always centered its attention upon the heart, while the allied professions that practice massage, hydrotherapeutics, corrective exercises and all the rest have always been keenly alive to the importance of maintaining the circulation. The most successful heart specialists in the world have been those who had a high appreciation of the importance of the peripheral circulation and who adopted those measures that are calculated to maintain the integrity of the health of the body as a whole.

109 East Sixty-first Street.

SOCIETIES

RHODE ISLAND MEDICO-LEGAL SOCIETY.

The Society held its annual meeting at Slocum's Pawtuxet Cove House, Thursday, June 29th, and the following officers were elected for the ensuing year: President, Dr. H. S. Flynn; Vice-President, Judge Frederick Rueckert; Secretary and Treasurer, Dr. J. S. Kelley. Adjournment was followed by a dinner of unusual excellence.

Thirty-six members and seven guests were present.

ILETIN (INSULIN, LILLY)

Purity, Stability and Constant Unitage Essential to Satisfactory Results In the Treatment of Diabetes

As a result of over two years research and experience in the production of Iletin (Insulin, Lilly), we are able to guarantee the purity, stability, and constant unitage of the product.

Purity and Stability—Iletin (Insulin, Lilly) is free from toxic substances and test lots show no deterioration over a period of more than a year.

Uniformity—Our output of Iletin (Insulin, Lilly) necessitates its manufacture in lots running into many millions of units each. This made possible the development of an elaborate system of standardization which enables us to guarantee the unitage within very narrow limits.

The Capacity of the Lilly Laboratories for the production of pure, stable Iletin (Insulin, Lilly) of constant unitage, so essential to the satisfactory treatment of diabetes, is equal to practically any conceivable demand.

Supplied through the drug trade in 5 c. c. ampoule vials, U-10, U-20 and U-40, containing 50, 100 and 200 units respectively. Send for pamphlet.

ELI LILLY AND COMPANY

INDIANAPOLIS, INDIANA, U. S. A.

GASTRON

The entire-stomach-gland extract

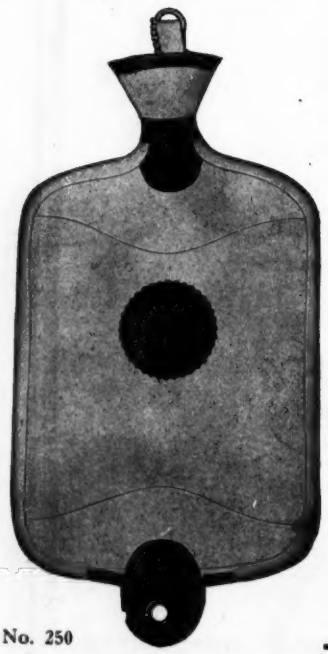
Submitted to the physician as a resource against gastro-intestinal affections.

GASTRON presents the complex proteins. coagulable and non-coagulable, the nucleo-proteins, amino-acids, etc., derivable from the gastric mucosa.

Agreeable solution — no sugar, no alcohol.

Fairchild Bros. & Foster
New York

DAVOL Superservice



No. 250

The Superservice Hot Water Bottles

Are made from the finest and purest selected rubber

Over capacity, unlosable stopper. Soft, velvety, heavy rubber

Hold the heat longer and will outwear all other water bottles

Davol Rubber Company
Providence, Rhode Island, U. S. A.